



# MANTIS™ LT

## OPERATING GUIDE



### CAUTION

TO PREVENT ELECTRICAL SHOCK OR FIRE HAZARD, DO NOT EXPOSE THIS INSTRUMENT TO RAIN OR MOISTURE.  
BEFORE USING THIS INSTRUMENT, READ BACK COVER FOR FURTHER WARNINGS.

#### Neck:

The select rock maple neck is of a unique bi-laminated construction (U.S. Patent #4,237,944) to provide unmatched rigidity and freedom from warpage. Additional reinforcement is provided with a steel torsion rod. This neck adjusting rod features rolled threads for improved strength and freedom from breakage.

This instrument features a "full" scale length which is 24 3/4" and there are 23 frets. The arch of the fingerboard is on a 12" radius to allow excellent string bending characteristics without the buzzing and "frettingout" problems associated with smaller 10" radius fingerboards. Frets are 18% nickel-silver, medium, and high crowned for a more secure grip when bending strings.

#### Body:

The body is made from the finest hand selected hardwood, which is finished in a choice of gloss custom colors. The deep lower cutaway offers greater access to all 23 frets. (See Care For The Instrument)

#### Pickup:

The pickup is a high output, fully adjustable 12-pole humbucking, designed to greatly increase tonal range and flexibility of the instrument. This pickup employs our patented tone circuit (dual/single coil, U.S. Patent No. 4,164,163) allowing humbucking or single coil operation of the pickup thru rotation of the tone control (see "How the Circuit Works"). The pickup is fully potted to reduce unwanted microphonics and noise and to allow pickups to remain intact for many years without vibrating loose in transport or use. Note: Because of this potting it is virtually impossible to disassemble the pickup without totally destroying the unit. Any attempt to disassemble the pickup will void the warranty on the electronics of your instrument.

#### Circuitry:

The circuit utilized in the instrument is designed for maximum tonal flexibility. There is only one volume control which operates the output level of the single humbucking pickup. The master pickup tone control allows the unique capability of selecting between humbucking response or single coil tonalities. (See description of "How the Circuit Works").

#### How the Circuit Works

Our unique patented tone circuit enables dual or single coil operation from the (humbucking) pickup, through the rotation of the pickup tone control. Rotating the tone control fully clockwise (position no. 10) achieves the single coil mode and produces a greater degree of highs from the instrument.

Rotating the tone control **counterclockwise** to approximately the "7" position brings the second coil into operation for humbucking tonalities. Further rotation counterclockwise of the tone control allows action typical of humbucking pickups and the pickup is full humbucking all the way back to the "0" position. When rotating the tone control from "0" to "10" you will notice as you pass "7" the overall tonality from the pickup becomes much thinner and more highs are apparent, noting that one of the coils has been slowly eliminated and from 7 to 10 on the control knob produces single coil operation.

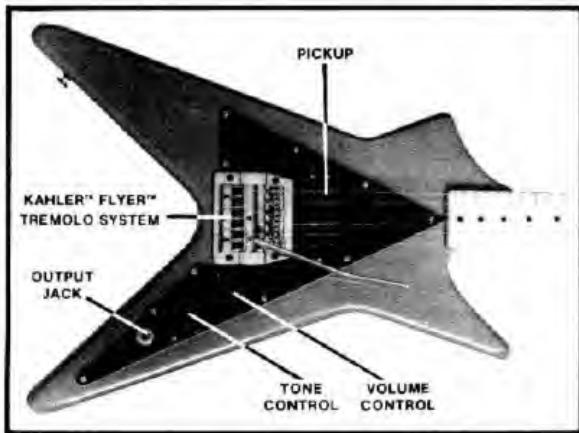
#### Bridge:

The instrument is equipped with a genuine Kahler™ "Flyer"™ tremolo system w locking string clamp. (see enclosed Kahler literature package).

#### Hardware:

- Premium die cast tuning machines
- Graphlon™ top nut
- Genuine Kahler™ locking tremolo system.

- Clear acrylic control knobs with elastomer grip ring
- Output jack on face of guitar
- Black-White-Black pickguard
- Top quality rock and roll gauge strings for light action and good sustain



#### Controls:

##### 1. Volume Control:

The volume control acts as a master volume in that it controls the total signal level to the output jack. Rotating the control knob **clockwise** will **Increase** volume; rotating **counterclockwise** will **reduce** volume.

##### 2. Tone Control:

The tone control, like the volume control, operates as a master control. Rotating **clockwise** will result in more treble (high frequencies) and a brighter tonality. Rotating **counterclockwise** will result in less treble and a "bassier" type sound.

##### Output Jack:

The output jack is a conventional  $\frac{1}{4}$ " phone jack which accepts standard guitar patch cords.

##### Pickup Adjustment:

The 12 individual polepiece screws allow critical pickup adjustment for each string. Raising or lowering screws closest to the bridge will increase or decrease treble sensitivity. Raising or lowering screws closest to the neck will increase or decrease low end sensitivity and output. Raising or lowering the entire pickup will increase or decrease overall output and volume.

##### NOTE

CARE MUST BE TAKEN TO MAINTAIN ADEQUATE CLEARANCE BETWEEN THE PICKUPS AND STRINGS. INADEQUATE CLEARANCE WILL RESULT IN LOSS OF SUSTAIN AND POSSIBLE STRING BUZZING WHEN PLAYING ON THE UPPER FRETS.

##### Adjustments:

Your instrument has been carefully adjusted for accurate intonation and playing ease at the Peavey factory. However, your playing style or playing requirements may necessitate additional adjustments at some time in the future. These adjustments should be made by your Peavey Dealer. However, with a little care and by adhering closely to the following instructions, you may attempt these adjustments yourself.

**CAUTION**  
PLEASE READ AND UNDERSTAND INSTRUCTIONS THOROUGHLY BEFORE ATTEMPTING ANY ADJUSTMENTS.

##### Adjusting Torsion Rod:

All guitar necks must have a slight amount of bow to keep the strings from buzzing on the frets. To set the "straightness" of the neck, a Peavey torsion rod wrench No. 75031001 must be used (available from a Peavey Accessory Center).

1. Tune the instrument to standard (A-440) pitch.
2. Fret the sixth string (BIG E) at the first and last frets.
3. Check for clearance between the string and the eighth fret.
4. Clearance should be no less than  $.012"$  and no more than  $.025"$ .
5. To increase clearance, loosen (counterclockwise) the torsion rod nut. Less clearance (straightening of the neck) is accomplished by tightening the nut.

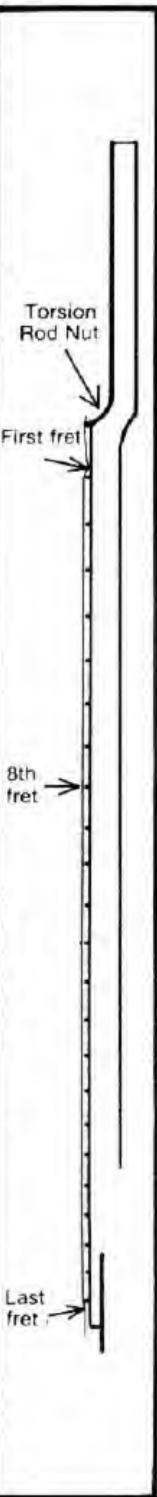
**CAUTION**  
IT IS NOT USUALLY NECESSARY TO ROTATE THE TORSION ROD NUT MORE THAN ONE FULL TURN IN EITHER DIRECTION. ONE-QUARTER TO ONE-HALF TURN IS NORMALLY SUFFICIENT TO MAKE MOST ADJUSTMENTS. EXCESSIVE ROTATION MAY CAUSE DAMAGE TO NECK AND TORSION ROD. IF EXCESSIVE FORCE IS NECESSARY TO ROTATE TORSION ROD NUT, YOU SHOULD CONSULT YOUR PEAVEY DEALER OR THE FACTORY BEFORE ANY FURTHER ADJUSTMENT IS MADE.

6. Repeat steps 1 through 5 until proper clearance has been reached.

##### Neck Tilt:

The neck tilt adjustment works in conjunction with the bridge height adjustment to set the overall string playing height. This adjustment should be used whenever possible to set string height rather than the bridge height adjustment.

1. Relieve string tension slightly by detuning guitar (approximately 1 to 2 full steps).
2. Loosen two neck screws (closest to headstock of guitar) approximately 1 turn.
3. Loosen remaining two neck screws (closest to bridge) approximately 2 turns.
4. String height may now be adjusted with the neck tilt screw which is located inside the fifth hole in the neck plate. A  $\frac{1}{8}$ " allen wrench is used to make this adjustment. Turning the screw clockwise lowers the strings closer to the fingerboard.



**NOTE**  
**STRING HEIGHT SHOULD BE ADJUSTED TO FIT YOUR OWN PARTICULAR PLAYING STYLE. IT SHOULD BE NOTED THAT SETTING THE STRING HEIGHT TOO LOW WILL RESULT IN EXCESSIVE STRING BUZZ AND RATTLE — ESPECIALLY WITH A "HEAVY" PLAYING TECHNIQUE. EXCESSIVELY HIGH ACTION WILL RESULT IN INTONATION PROBLEMS AND DECREASED PLAYABILITY.**

5. After adjustment, securely tighten all four neck attaching screws.
6. Tune guitar to standard pitch. Check strings for correct height and playability. If necessary, repeat steps 1 through 5 until action is correct.

#### **Saddle Height Adjustment:**

**NOTE**  
**ALL SADDLE HEIGHT AND INTONATION ADJUSTMENTS MUST BE MADE PRIOR TO TIGHTENING STRING LOCK. REFER TO ENCLOSED KAHLER™ FLYER™ LITERATURE PACKAGE.**

#### **String Intonation:**

Accurate string intonation settings insure that your instrument will play in tune at any point on the neck. Although "perfect intonation" is a physical impossibility with a fretted instrument, the correct settings will maximize the accuracy of individual notes up and down the neck.

Intonation is set by comparing the pitch of an open string to the pitch of the same string when it is played one octave higher at the 12th fret. The actual "vibrating length" of that string is varied until the notes are both at the right pitch. The "vibrating length" of the string is altered by adjusting the bridge saddle either forward or backward, depending on whether the fretted note is sharper or flatter in pitch than the open note. If the fretted note is sharper than the open note, the vibrating length of the string must be increased — move the bridge saddle to the rear, away from the pickups. If the fretted note is flat, the vibrating length must be shortened — move the bridge saddle forward, toward the pickups, to shorten the length.

**NOTE**  
**IT IS OFTEN DIFFICULT FOR THE UNTRAINED EAR TO DETERMINE WHEN THE OPEN NOTE AND THE FRETTED NOTE ARE AT PRECISELY THE SAME PITCH. SOME PLAYERS FIND THAT COMPARING THE 12TH FRET HARMONIC OF THE STRING (RATHER THAN THE OPEN NOTE) TO THE FRETTED NOTE IS MUCH EASIER. A HARMONIC IS PLAYED BY PLUCKING THE STRING WITH THE RIGHT HAND WHILE TOUCHING THE STRING WITH THE LEFT INDEX FINGER (AS LIGHTLY AS POSSIBLE) DIRECTLY ABOVE THE TWELFTH FRET. THE LEFT INDEX FINGER IS DRAWN AWAY AS QUICKLY AS POSSIBLE AFTER THE STRING IS PLUCKED, PRODUCING A "CHIME" EFFECT. THIS CHIMED NOTE IS THEN COMPARED TO THE FRETTED NOTE.**

**FOR EVEN GREATER EASE AND A HIGH DEGREE OF ACCURACY, WE RECOMMEND ONE OF THE**

**MANY TYPES OF ELECTRONIC GUITAR TUNERS THAT ARE AVAILABLE FROM MOST MUSIC STORES. THE TUNERS WHICH USE EITHER A METER OR A MOVING LED DISPLAY ARE USUALLY EASIER TO USE THAN THE TYPE WITH A NUMERICAL FREQUENCY READOUT.**

#### **Setting Intonation:**

**NOTE**  
**BOTH TORSION ROD AND STRING HEIGHT SETTINGS INTERACT CLOSELY WITH STRING INTONATION. THESE ADJUSTMENTS MUST BE COMPLETED BEFORE ANY ATTEMPT IS MADE TO SET STRING INTONATION AT THE BRIDGE.**

1. Insure that torsion rod and string height settings are accurate.
2. Tune guitar to standard A-440 pitch.
3. Hold the instrument in a normal playing position or place the guitar on a clean flat surface, so that **only the body** is in contact with the work surface. Any pressure on the neck will affect intonation settings.
4. Play the 1st string open and compare it to the pitch of the same string when it is played at the 12th fret. These notes should be the same (one octave apart).
5. Using a wrench supplied with Kahler™ Flyer™ unit, adjust the string saddle so that both the fretted and open notes are the same (see "Adjusting the Kahler™ Flyer™ Tremolo").

**NOTE**  
**IT WILL OFTEN BE NECESSARY TO RETURN THE OPEN STRING TO STANDARD PITCH AFTER THE BRIDGE POSITION IS ALTERED.**

6. Repeat steps 4 and 5 for the remaining strings.
7. Repeat steps 1 through 6 as necessary until intonation of all the strings are accurately adjusted.

#### **Care For The Instrument:**

This is a high quality musical instrument constructed from the finest materials and with the most up-to-date production methods available. With reasonable care, it should provide many, many years of service and outstanding playability.

#### **Temperature and Humidity:**

It is important that your instrument be protected from any extremes or sudden changes in either temperature or humidity. The instrument should be stored in its case whenever it is not in use.

#### **Strings:**

String life may be greatly extended by frequent cleaning and wiping after use. Dirt and perspiration tend to build up on the underside of the strings, so it is often necessary to slide a rag between the strings and the fingerboard. Dirt-laden strings cause tuning and intonation problems, as well as rust and corrosion.

For best performance, strings should be changed approximately once a month or every twenty-four playing hours. Some players may find that they prefer to change strings more often.

#### **Finish:**

Your instrument has a polyurethane finish which is both durable and weather-resistant, but nevertheless, needs care. Automotive-grade waxes will protect, clean, and shine it. Between waxing, the instrument should be wiped with a dry, soft cloth.

**PEAVEY GUITAR ONE-YEAR  
LIMITED WARRANTY/REMEDY**

PEAVEY ELECTRONICS CORPORATION ("Peavey") warrants this Guitar to be free from defects in material and workmanship for a period of one year from date of purchase; PROVIDED, however, that this limited warranty is extended only to the original retail purchaser and is subject to the conditions, exclusions and limitations hereinafter set forth.

**CONDITIONS, EXCLUSIONS AND  
LIMITATIONS OF LIMITED WARRANTY**

This limited warranty shall be VOID and of NO EFFECT if:

1. The first purchase of the product is for the purpose of resale; or
2. The original retail purchase is not made from an AUTHORIZED PEAVEY DEALER; or
3. The product has been damaged by accident or unreasonable use, neglect, improper service or maintenance, or other causes not arising out of defects in material or workmanship.

This limited warranty shall not extend to or cover guitar strings. Replacement of guitar strings is deemed to be reasonable and necessary maintenance.

Purchaser's exclusive remedy for breach of this limited warranty is repair of the defect or replacement of the guitar, at Peavey's option. Service work may be performed by any Peavey Authorized Service Center, or if the service center is unable to provide the necessary warranty service, you will be directed to the nearest other Peavey Authorized Service Center which can provide such service. Or, you may return the guitar, postage prepaid and insured, along with a description of the problem, proof of purchase, and a complete return address to:

**PEAVEY ELECTRONICS CORPORATION**

711 "A" Street

Meridian, MS 39301

If the defect is remedial under this limited warranty, and the other terms and conditions expressed herein have been complied with, Peavey will repair or replace the product and will return it, freight collect, to the purchaser. Other than the postage and insurance requirement, no charge will be made for such repair or replacement.

Peavey's liability to the purchaser for any cost whatsoever, and regardless of the form of action, whether in contract or in tort, including negligence, shall be limited to actual damages up to an amount equal to the greater of the purchase price of the product causing the damage or \$500.00. UNDER NO CIRCUMSTANCES WILL PEAVEY BE LIABLE FOR ANY LOST PROFITS, ANY INCIDENTAL DAMAGES OR ANY CONSEQUENTIAL DAMAGES ARISING OUT OF THE USE OF OR INABILITY TO USE THE GUITAR, EVEN IF PEAVEY HAS BEEN ADVISED OF THE POSSIBILITY OF SUCH DAMAGES.

The foregoing limitation of remedy will not apply to the payment of cost and damage awards for personal injury or damage to real property or tangible personal property caused by negligence on Peavey's part.

**"The Kahler" Flyer" Tremolo Warranty Information**  
"The Kahler" tremolo system used on this instrument is warranted by American Precision Metalworks (manufacturer of Kahler™ tremolos) and covers such usage as is specifically outlined in the warranty and instructions included in the packet provided with the tremolo to which the buyer is directed. Due regard must be observed that this individual warranty may require that no one except American Precision Metalworks can make adjustments or repairs without creating the danger of voiding the individual Kahler™ warranty. Any inquiries for information concerning warranty service or replacement parts for the Kahler™ tremolo should be directed to American Precision Metalworks, P.O. Box 9305, Anaheim, California 92802."

**DANGER**

ALL AMPLIFICATION ACCESSORIES, MICROPHONES, MIXERS, ETC., MUST BE PROPERLY GROUNDED AND SHOULD BE UTILIZED WITH A 3-WIRE MAINS SYSTEM IN ORDER TO AVOID ELECTRICAL SHOCK.

**DANGER**

DO NOT COME INTO CONTACT WITH OTHER ELECTRICAL APPARATUS WHEN PLAYING (OR TOUCHING) YOUR INSTRUMENT. THE METAL PARTS OF THIS INSTRUMENT ARE GROUNDED ACCORDING TO PROPER AND ACCEPTED INDUSTRY PRACTICE, BUT IT IS POSSIBLE TO ENCOUNTER AN ELECTRICAL SHOCK WHEN COMING INTO CONTACT WITH ANOTHER ELECTRICAL APPARATUS IF IT HAS IMPROPER GROUNDING FACILITIES.

**WARNING**

DO NOT USE IMPROPER OR POORLY DESIGNED GUITAR STRAPS OR OTHER MEANS OF SUPPORT. POSSIBLE INJURY COULD RESULT IF IMPROPER, INFERIOR, ILL FITTING OR WORN OUT STRAPS ARE USED. THE INSTRUMENT COULD POSSIBLY FALL, CAUSING BODILY INJURY OR DAMAGE TO THE INSTRUMENT OR ASSOCIATED EQUIPMENT IF THE HOLDING DEVICES FAIL FOR ANY REASON.

**DANGER**

GUITAR STRINGS ARE MADE FROM VERY STRONG STEEL ALLOYS. THEY ARE DESIGNED TO BE USED UNDER TENSION AND, UNDER CERTAIN CONDITIONS, THEY MAY BREAK AND SPRING AWAY FROM THE GUITAR. DO NOT TUNE OR PLAY THIS INSTRUMENT WITH YOUR FACE IN CLOSE PROXIMITY TO THE STRINGS. AS SERIOUS INJURY COULD RESULT IF A STRING SHOULD BREAK.

**WARNING**

BASS GUITAR STRINGS ARE UNDER CONSIDERABLE TENSION WHEN THEY ARE TUNED TO CONCERT (A-440) PITCH. EXERCISE EXTREME CARE WHEN TUNING (ESPECIALLY ABOVE CONCERT PITCH) OR WHEN EMPLOYING STRING BENDING OR "POPPING" PLAYING TECHNIQUES. THE POSSIBILITY OF STRING BREAKAGE AND PERSONAL INJURY EXISTS UNDER THESE CONDITIONS.

**NOTE**

THE PATCH CORD BETWEEN THE GUITAR AND THE AMPLIFIER IS AN EXTREMELY IMPORTANT LINK. FOR OPTIMUM PERFORMANCE, A HIGH QUALITY WELL SHIELDED CORD SHOULD BE USED IN THIS APPLICATION.

Due to our efforts for constant improvement, features and specifications are subject to change without notice.